

Appln. No. 10/070,884

Attorney Docket No. 11721-018

**III. Remarks**

Claims 1, 4-8, 10 and 13-20 are pending in the application. Claims 2, 3, 9, 11 and 12 have been cancelled. Claims 1, 8, 10 and 15 have been amended. No new claims have been added.

**Claim Objections**

Claim 10 was objected to because of an informality. Claim 10 has been amended to insert the word "of" before the word "indicative".

**Rejections Under 35 USC § 112**

Claims 8, 10, 13 and 14 are rejected under 35 USC §112, first paragraph as containing subject matter which was not described in the specification. More specifically, the Examiner stated that claim 8 had been amended to recite that the controller is capable of determining the location of an impact along a structural element and that no description had been given as to how this determination is made by the controller.

Claim 8 claims a controller for detecting changes in said variable output signal of each of said sensor elements, and based on the detected change in the variable output signal of each of said sensor elements determine the location of the impact along the structural element. Claim 8 is supported in the specification, as shown below:

"For example, when an impact event occurs near the latch of the door, causing deformation only in that area, the element 50 located in that area will deform, and therefore it will be the only element that relays a deformation signal to the restraint control module 36." (Page 9, lines 12-15).

"Furthermore, this arrangement of a plurality of bend sensitive resistance elements 50 provides an ability to resolve the location and width of an impact event relative to vehicle 10 by comparing the extent

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of the deformation between neighboring bend sensitive resistance elements 50." (Page 9, lines 25-29).

"Furthermore, the ability to determine the location and width of impact with the vehicle 10 will allow for more effective decisions regarding which restarts need to be deployed." (Page 13, lines 15-17).

Accordingly, Applicant respectfully requests allowance of Claim 8 and its dependents.

#### **Rejections Under 35 USC § 102**

Claims 8, 10, 13, 15, 17 and 18 are rejected under 35 USC §102(b) as being anticipated by U.S. Patent No. 5,419,407 issued to Meyer et al. (Meyer).

Meyer discloses a triggering mechanism for a side airbag. The triggering mechanism has a deformation sensor for determining a rate of deformation. The deformation sensor is made of two pressure sensitive sensor elements which are attached on a carrier plate parallel to the outside skin inside the vehicle. The deformation sensor includes two sensor elements which are attached on both sides of a common carrier plate parallel to the outer skin. The pressure sensitive surfaces of the sensor elements are directed outward. The first sensor element detects a force effect which emanates directly from the outer skin while the second element detects a force effect from the direction of the member. The carrier plate is fixedly held at a constant distance from the member by spacer elements. The spacer elements protrude as legs from the longitudinal sides of the carrier plate and on the member side merge with clip elements (Column 3, lines 31-48; Figures 2-3). Furthermore, Meyer discloses distributing a plurality of deformation sensors over a surface to be sensed and combining their triggering signals (Column 6, lines 1-4).

The sensing system of the present invention provides a plurality of deformation sensor elements horizontally and longitudinally spaced along a structural element of a vehicle. Each of the plurality deformation sensors is capable

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of generating a variable output signal. The system further includes a controller for detecting a change in each of the plurality deformation sensors and based on the detected change in each of the variable output signals determines the location of the impact along the structural element.

Meyer does not disclose a plurality of deformation sensor elements horizontally and longitudinally spaced along a structural element of a vehicle and a controller for detecting changes in said variable output signal of each of said sensor elements, and based on the detected change in the variable output signal of each of said sensor elements determine the location of the impact along the structural element, as now claimed in claim 8 and 15. Meyer discloses distributing sensors over a surface and combining their outputs in a logic operation. Meyer is not directed to determining the discrete location of the impact. Meyer is directed to determining how many of the deformation sensors have been triggered (Column 5, lines 59-68 and Column 6, lines 1-15). As such, Meyer teaches away from the present invention, as now claimed, in claims 8 and 15 by providing a combined sensor signal output which is not useful for determining the location of the impact along a structural element. Applicants assert that independent claims 8 and 15, as amended, are now patentable over Meyer. Accordingly, Applicants respectfully request allowance of claims 8 and 15.

With respect to claims 10, 13, 17 and 18, these claims ultimately depend from either claim 8 or 15 and therefore are patentable for at least the same reasons as given above in support of claims 8 and 15. Of course, claims 10, 13, 17 and 18 include limitations and features that render these claims independently patentable over Meyer. Accordingly, Applicants respectfully request allowance of claims 10, 13, 17 and 18.

#### **Rejections Under 35 USC § 103**

Claims 1, 4 and 6 are rejected under 35 USC §103(a) as being unpatentable over Meyer in view of U.S. Patent No. 5,583,476 issued to Langford (Langford).

The Examiner states that Meyer lacks a bend sensitive resistance sensor comprising a strip of conductive ink containing a plurality of cracks and that Langford

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discloses a bend sensitive resistance sensor comprising a strip of conductive ink containing a plurality of cracks.

However, neither Meyer nor Langford disclose a controller for detecting changes in each of the independent resistance output signals and based on the detected change in the independent resistance output signals of each of said sensor elements determine the location of the impact along the structural element. Meyer discloses distributing sensors over a surface and combining their outputs in a logic operation. Meyer is not directed to determining the discrete location of the impact. Meyer is directed to determining how many of the deformation sensors have been triggered (Column 5, lines 59-68 and Column 6, lines 1-15). As such, Meyer teaches away from the present invention, as now claimed, in claim 1 by providing a combined sensor signal output which is not useful for determining the location of the impact along a structural element.

Thus, Langford fails to disclose or suggest the features which were previously noted as being absent in Meyer, it must be concluded that the combination of Meyer in view of Langford cannot render the claims of the present application obvious. Accordingly, Applicants respectfully request allowance of claim 1.

With respect to claims 4 and 6, these claims ultimately depend from claim 1 and therefore are patentable for at least the same reasons as given above in support of claim 1.

Claims 5 and 7 are rejected under 35 USC §103(a) as being unpatentable over Meyer in view of Langford as applied to claim 1 above and further in view of U.S. Patent No. 6,169,479 issued to Boran et al. (Boran). However, Boran does not disclose a controller for detecting changes in each of the independent resistance output signals and based on the detected change in the independent resistance output signals of each of said sensor elements determine the location of the impact along the structural element, as now claimed in claim 1. Thus, since claims 5 and 7 are ultimately dependant on claim 1, claims 5 and 7 are patentable for at least the same reasons as given in support of claim 1. Accordingly, Applicants respectfully request allowance of claims 5 and 7.

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Claims 14 was rejected under 35 USC §103(a) as being unpatentable over Meyer in view of Boran. However, neither Meyer nor Boran discloses a controller for detecting changes in said variable output signal of each of said sensor elements, and based on the detected change in the variable output signal of each of said sensor elements determine the location of the impact along the structural element, as claimed in claim 8. Thus, since claim 14, is ultimately dependant on claim 8, claim 14 is patentable for at least the same reasons as given in support of claim 8. Accordingly, Applicants respectfully request allowance of claim 14.

Claims 16, 19 and 20 are rejected under 35 USC §103(a) as being unpatentable over Meyer in view of Boran. However, neither Meyer nor Boran discloses a controller for detecting changes in each of said variable output signals and based on the detected change in the variable output signal of each of said sensor elements determine the location of the impact along the structural element and deploying said at least one passive restraint, as now claimed in claim 15. Thus, since claims 16, 19 and 20, are ultimately dependant on claim 15, claims 16, 19 and 20 are patentable for at least the same reasons as given in support of claim 15. Accordingly, Applicants respectfully request allowance of claims 16, 19 and 20.

With respect to claim 12, claim 12 has been cancelled rendering the rejection moot.

#### SUMMARY

Pending Claims 1, 4-8, 10, and 13-20 as amended are patentable. Applicants respectfully request the Examiner grant early allowance of these claims. The Examiner is invited to contact the undersigned attorneys for the Applicants via telephone if such communication would expedite this application.

Respectfully submitted,

December 27, 2004  
Date

  
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